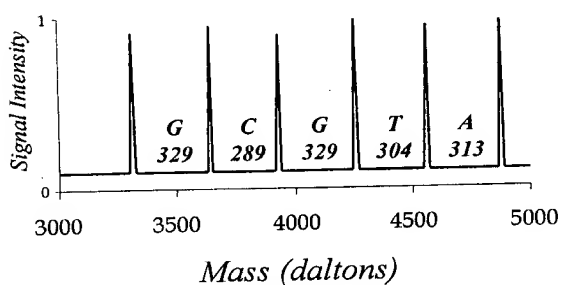


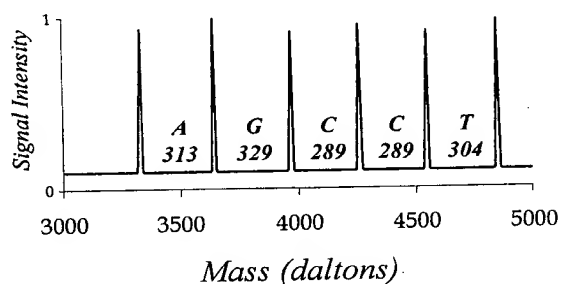
a) Sequence #1: AGCGTA

Primer	Extension	Mass (Da)
3016 Da	agcgta	4878.2
	agcgt	4565.0
	agcg	4260.8**
	agc	3931.6
	ag	3642.4*
	a	3313.2

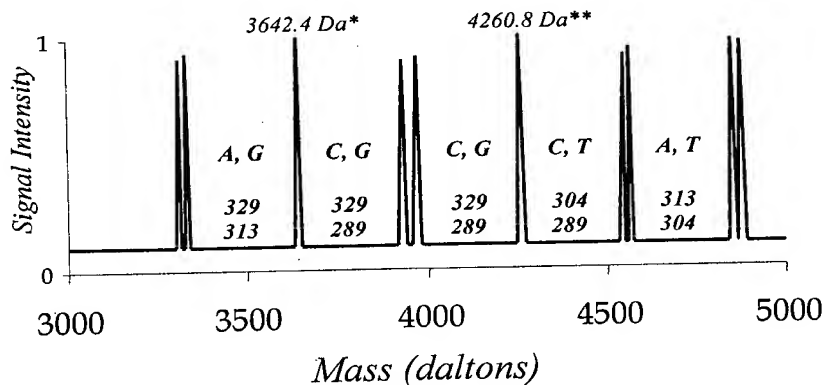


b) Sequence #2: GATCCT

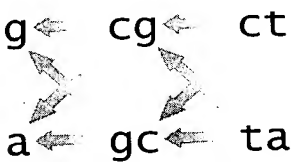
Primer	Extension	Mass (Da)
3016 Da	gagcct	4854.2
	gagcc	4550.0
	gagc	4260.8**
	gag	3971.6
	ga	3642.4*
	g	3329.2



c)



d)



e)

gcgct
GCGTA
 ggcct
 ggcta
 acgct
 acgta
AGCCT
 agcta

Figure 1

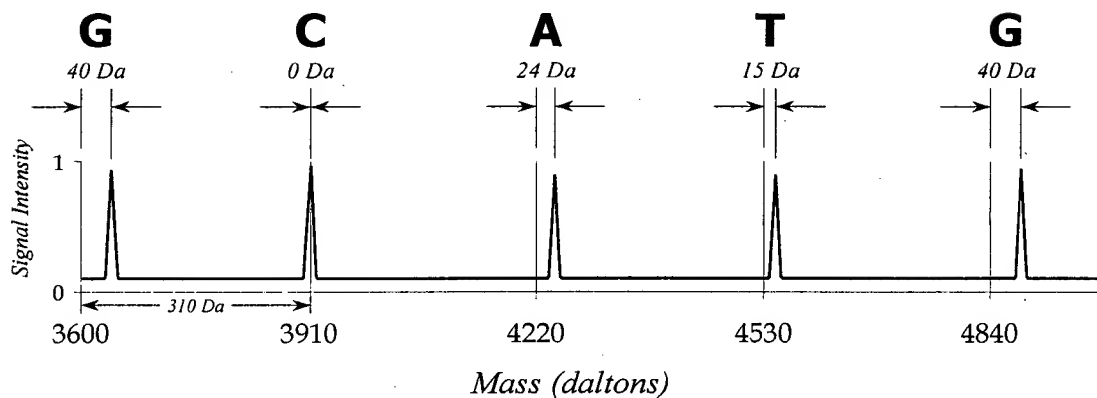
USE OF NUCLEOTIDE ANALOGS IN THE ANALYSIS OF
OLIGONUCLEOTIDE MIXTURES AND IN HIGHLY
MULTIPLEXED NUCLEIC ACID SEQUENCING

DOCKET NO. 25491-2408

Filed: June 13, 2001

a) Nucleotide Mass (Da) Sequence #1: GCATG

<u>Nucleotide</u>	<u>Mass (Da)</u>	<u>Primer #1</u>	<u>Extension</u>	<u>Mass (Da)</u>
dN	310	3327 Da	Products	
ddC	273		nnnng	4880
ddT	288		nnnt	4545
ddA	297		nna	4244
ddG	313		nc	3910
			g	3640



b) Sequence #2: CATGC

<u>Primer #2</u>	<u>Extension</u>	<u>Mass (Da)</u>
3404 Da	Products	
	nnnnc	4917
	nnng	4647
	nnt	4312
	na	4011
	c	3677

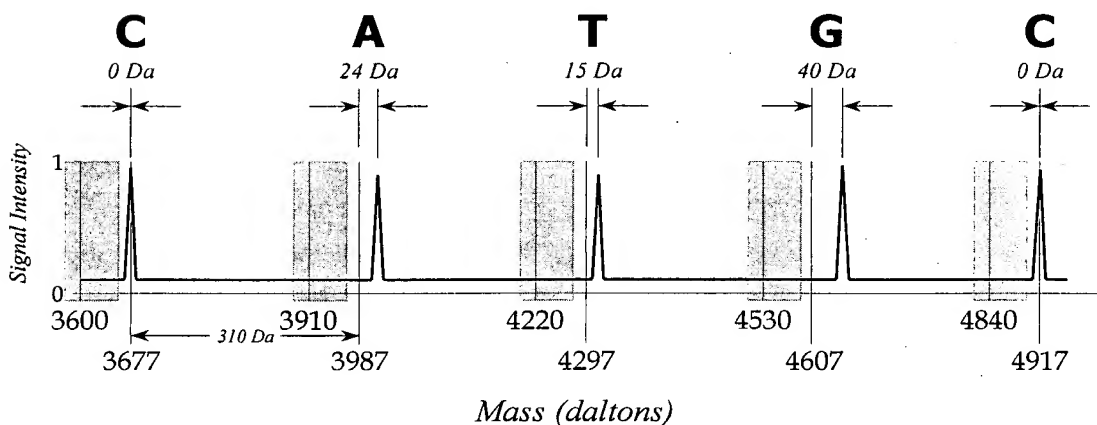


Figure 2

Sequence #1: GCATA

Primer #1 3327 Da	Extension Products	Mass (Da)
————	nnnna	4864
————	nnnt	4545
————	nna	4244
————	nc	3910
————	g	3640

Sequence #3: CATGC

Primer #3 3404 Da	Extension Products	Mass (Da)
————	nnnnc	4917
————	nnng	4647
————	nnt	4312
————	na	4011
————	c	3677

Sequence #2: TCAGG

Primer #2 3481 Da	Extension Products	Mass (Da)
————	nnnng	5034
————	nnng	4724
————	nna	4398
————	nc	4064
————	t	3769

Sequence #4: AACTC

Primer #4 3558 Da	Extension Products	Mass (Da)
————	nnnnc	5071
————	nnnt	4776
————	nnc	4451
————	na	4165
————	a	3855

Sequence

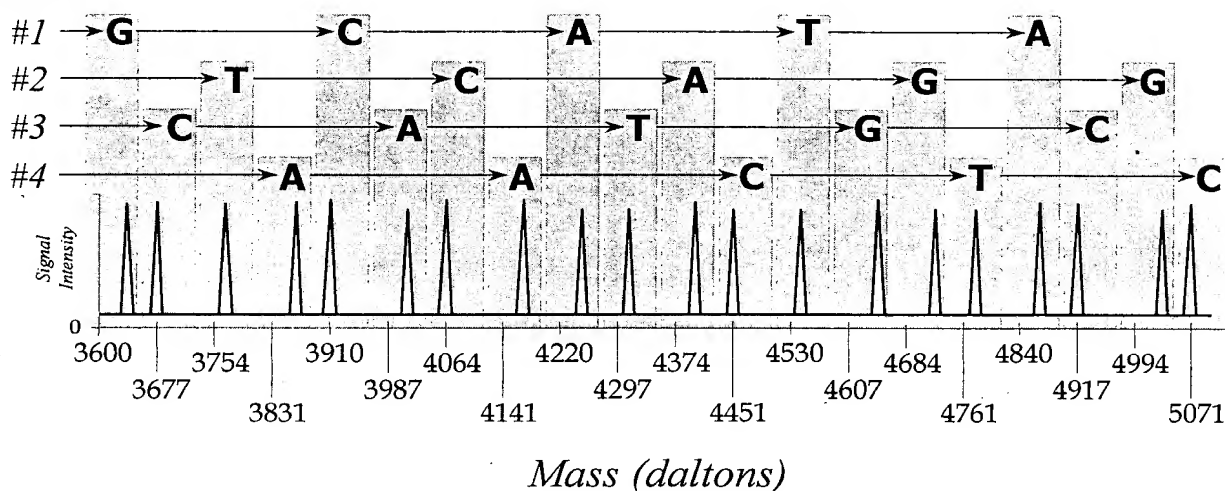


Figure 3

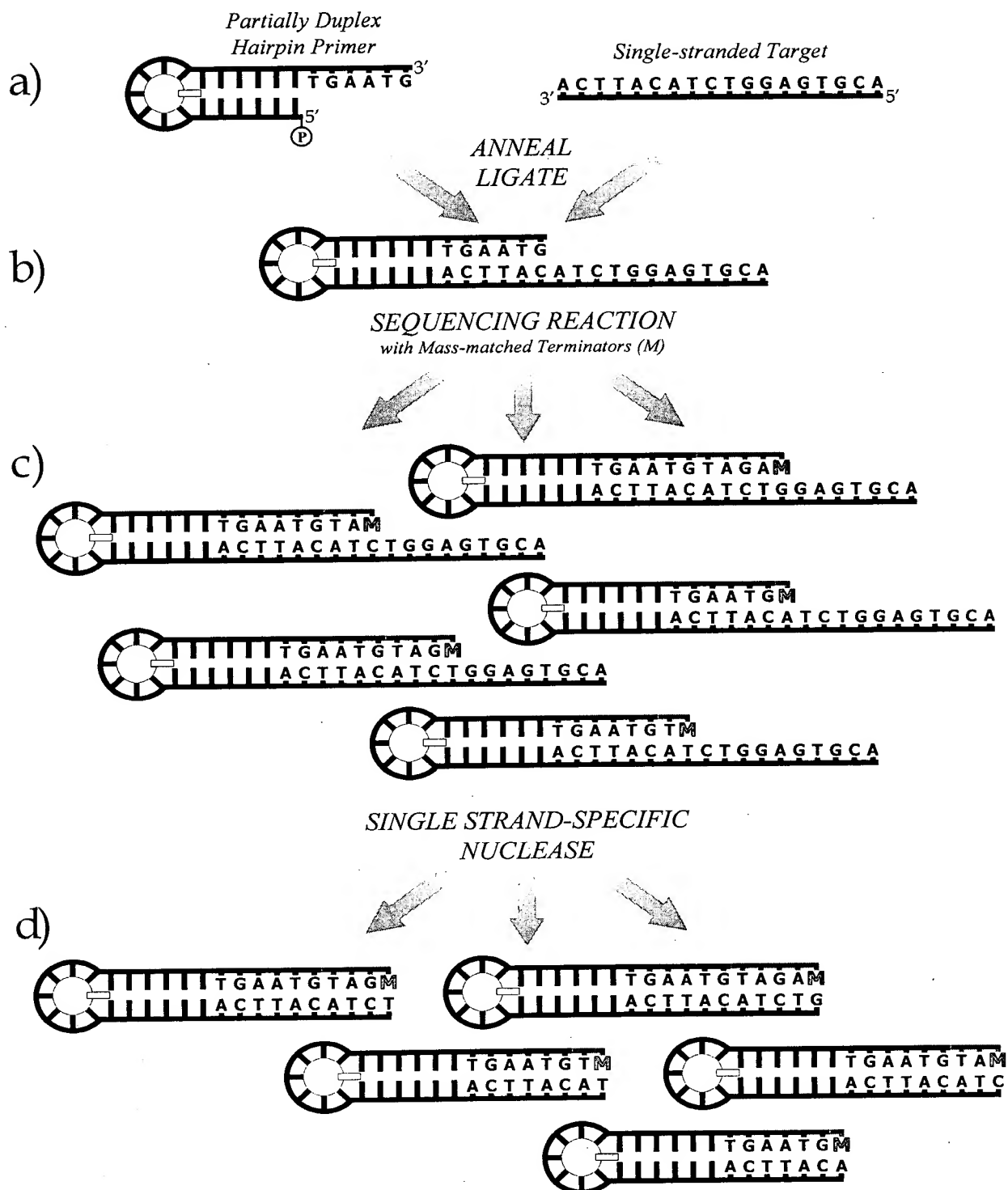







Figure 4

a)

<i>Reaction Products</i>	<i>Mass (Da)</i>
	12868.6
	12227.2
	11594.8
	10992.4
	10384.0

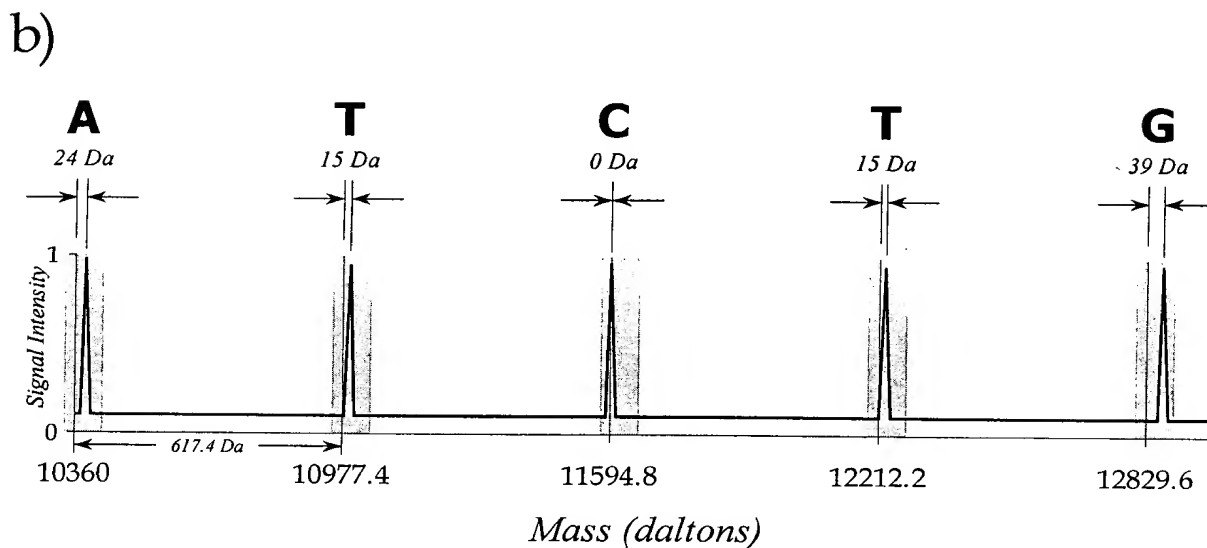


Figure 5

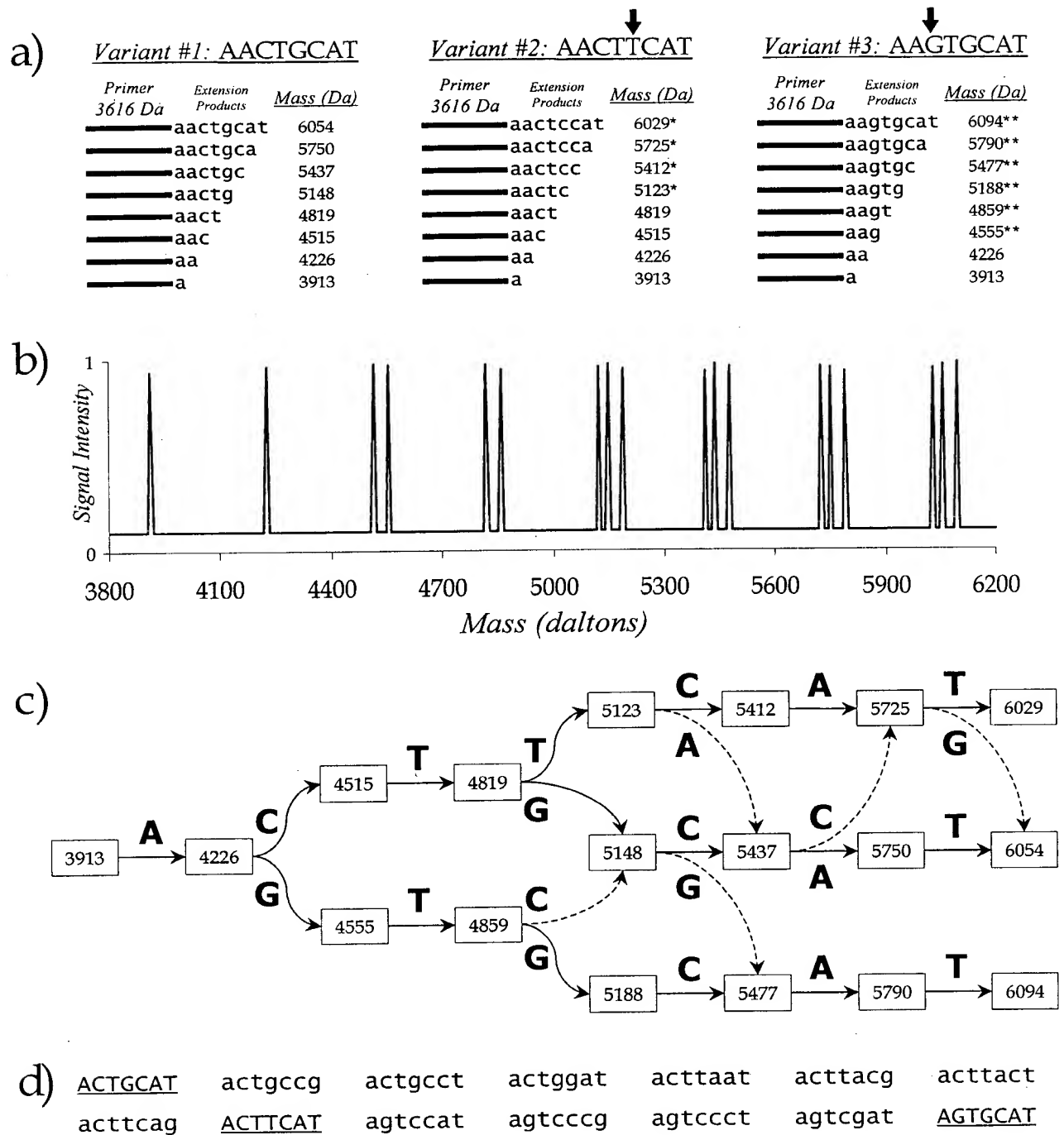
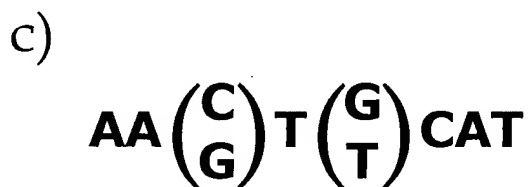
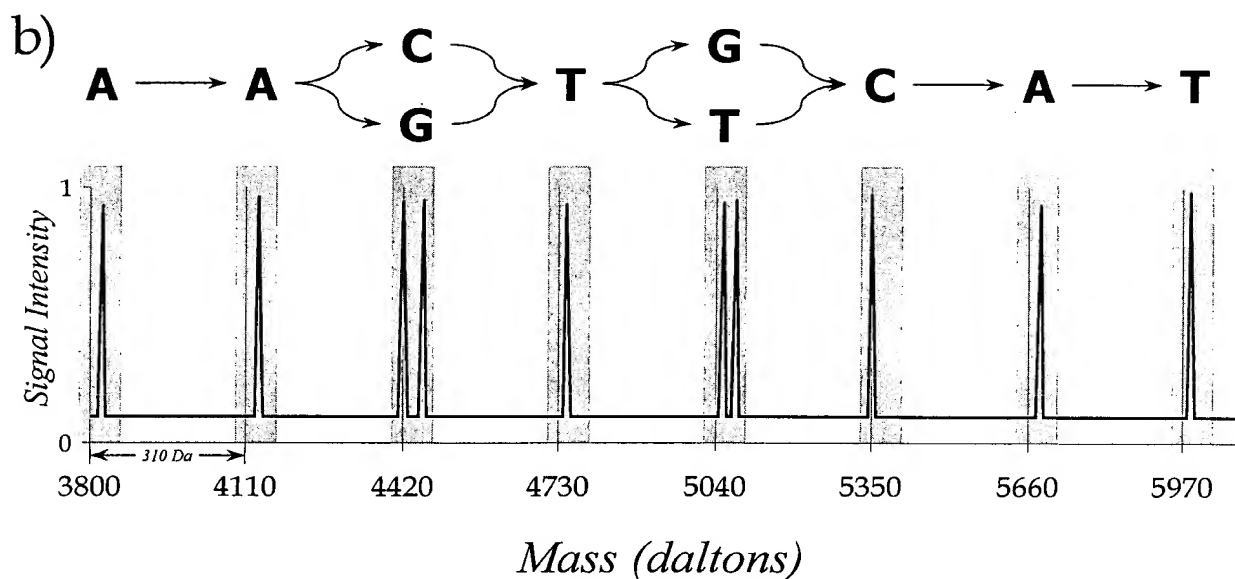


Figure 6

a)

<i>Variant #1: AACTGCAT</i>			<i>Variant #2: AACTTCAT</i>			<i>Variant #3: AAGTGCAT</i>		
<i>Primer</i>	<i>Extension</i>	<i>Mass (Da)</i>	<i>Primer</i>	<i>Extension</i>	<i>Mass (Da)</i>	<i>Primer</i>	<i>Extension</i>	<i>Mass (Da)</i>
3527 Da	Products		3527 Da	Products		3527 Da	Products	
nnnnnnnt		5985	nnnnnnnt		5985	nnnnnnnt		5985
nnnnnna		5684	nnnnnna		5684	nnnnnna		5684
nnnnnc		5350	nnnnnc		5350	nnnnnc		5350
nnnnng		5080	nnnnnt		5055*	nnnnng		5080
nnnt		4745	nnnt		4745	nnnt		4745
nnc		4420	nnc		4420	nnng		4460*
na		4134	na		4134	na		4134
a		3824	a		3824	a		3824

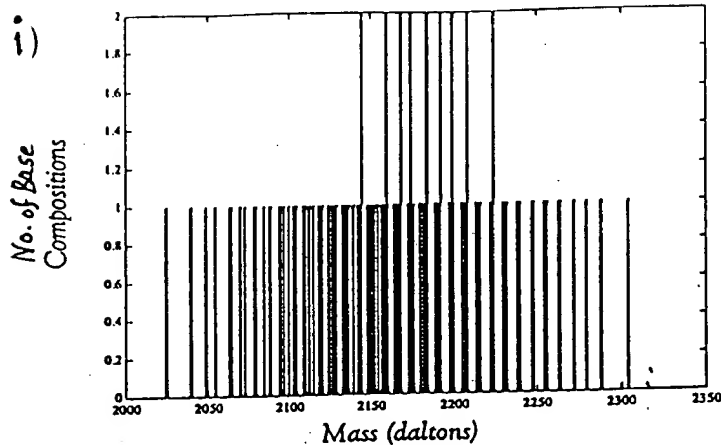


d)

AACTGCAT
 AACTTCAT
 AAGTGCAT
 aagttcat

Figure 7

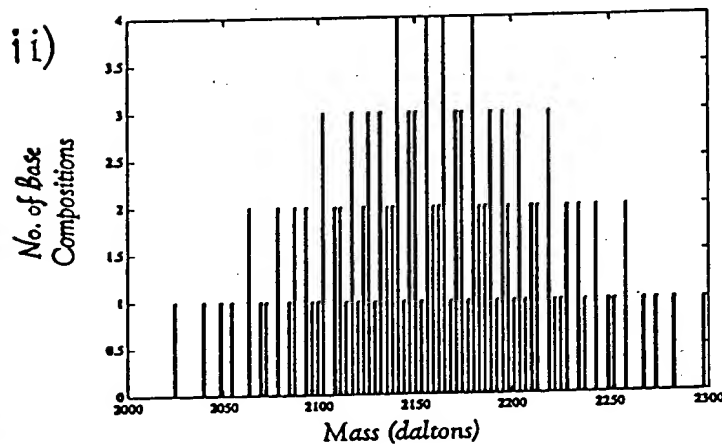
Figure 8

Base composition density distributions for
7-mers using different nucleotide sets.

C = 289.2
T = 304.2
A = 313.2
G = 329.2

Naturally Occurring Bases

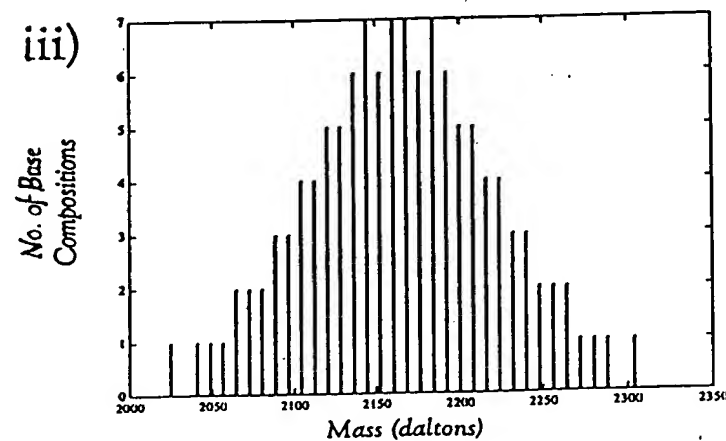
Peaks can be closer than one dalton.
Total No. of different base compositions = 120
Actual number of represented masses = 110
Avg. No. of compositions per mass value = 1.091



C = 289.2
T = 304.2
A = 313.2
G = 328.2

Substitution with 7-deaza-dG

Minimum peak separation = 3 daltons
Number of allowed mass values = 92
Actual number of represented masses = 64
Avg. No. of compositions per mass value = 1.875



C = 289.2
T = 305.2
A = 313.2
G = 329.2

Substitution with deuterio-dT

Minimum peak separation = 8 daltons
Number of allowed mass values = 36
Actual number of represented masses = 34
Avg. No. of compositions per mass value = 3.529